

**CLAIMS:**

What is claimed is:

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1. A method of making selling decisions for selling a product or service,  
comprising:

obtaining one or more rules identifying strategic selling policies;

obtaining one or more attributes for the product or service to be sold; and

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automatically making a decision to sell the product or service to a customer  
based on the one or more rules and the one or more attributes.

2. The method of claim 1, wherein the one or more rules include one or more  
rules directed to at least one of an identification of the types of products or services  
15 that are to be sold over a specified period of time, preferred terms and conditions of  
sale, preferred shipping or delivery policies, desired expiration times on orders, target  
selling prices, thresholds for minimum selling prices, target values for customer quality  
metrics, records of previous sales, identities, amounts and values of products or  
services previously sold, pre-agreed terms for specific customers or categories of  
20 customers, preferred or required bundles of products or services, information for  
calculating tradeoffs among different products or services, sets of products or services  
that may be substituted for each other, default policies for product returns, rank ordered  
or weighted lists of preferred customers, preferred payment methods, and parameters  
used in automated price calculation algorithms.

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3. The method of claim 1, wherein the one or more attributes includes at least one  
of a minimum price to be paid for the product or service, a minimum number of  
products or services for purchase, sets of products or services that may be offered as  
substitutes for each other, information about relative valuations or tradeoffs among

products or services, information for determining tradeoffs among imperfectly substitutable products or services, information for determining tradeoffs between product or service prices, order size, and delivery times, information for determining tradeoffs between product or service prices and vendor preferences, thresholds for  
 5 minimum acceptable quality measures.

4. The method of claim 1, wherein the product or service is associated with a multi-attribute utility function that describes an interrelation between multiple attributes of the one or more attributes.

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5. The method of claim 1, wherein the one or more attributes are dynamically set.

6. The method of claim 1, wherein the one or more attributes are fixed.

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7. The method of claim 1, wherein at least one of the one or more attributes is dynamically set and at least one of the one or more attributes is fixed.

8. The method of claim 1, wherein a value of at least one of the one or more attributes is automatically set.

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9. The method of claim 1, wherein automatically making a decision to sell the product or service to a customer includes:

automatically determining an initial offer of sale for the product or service;

automatically providing the initial offer of sale to the customer; and

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automatically negotiating terms of sale of the product or service based on the initial offer of sale, the one or more rules and the one or more attributes of the product or service.

10. The method of claim 9, wherein automatically negotiating terms of sale of the product or service includes:

obtaining history information regarding the product or service; and  
determining acceptable terms of sale based on the history information.

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11. The method of claim 10, wherein the history information includes at least one of production costs for the product or service, prices of similar or competing products or services, current or past sales and income on different products or services, estimates of historical measures of customer demand for the product or service, and  
10 customer click stream history.

12. The method of claim 9, wherein automatically negotiating terms of sale of the product or service includes:

obtaining exogenous preference information for a customer; and  
15 determining acceptable terms of sale based on the exogenous preference information.

13. The method of claim 12, wherein the exogenous preference information includes at least one of identification of known or previous customers that are  
20 preferred, identification of known or previous customers that are to be avoided, rank ordering of customers, and rank ordering of customers to prefer for the product or service.

14. The method of claim 9, wherein automatically negotiating terms of sale of the  
25 product or service includes:

obtaining information about one of the product or service and the customer from a third party; and  
determining acceptable terms of sale based on the obtained information.

15. The method of claim 1, wherein negotiating terms of sale of the product or service includes at least one of using a price setting method, using an automated bidding method, and haggling over terms of sale of the product or service.

5 16. The method of claim 1, wherein negotiating terms of sale of the product or service includes negotiating based on one or more negotiation parameters including at least one of:

thresholds on minimum acceptable price;

parameters of algorithms used to calculate price changes to offer;

10 thresholds on minimum acceptable quality;

time-sensitive parameters;

preferred increments in price when making counteroffers;

preferences, weights, or rank orderings for evaluating tradeoffs among alternatives;

15 tunable parameters of algorithms used in calculating offers; and

rank orderings of preferred algorithms to use with particular purchasers.

17. The method of claim 1, further comprising:  
storing a record of the sale.

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18. The method of claim 9, wherein automatically providing the initial offer of sale to the customer includes updating a on-line catalog listing for the product or service based on the initial offer of sale.

25 19. The method of claim 9, wherein automatically providing the initial offer of sale to the customer includes transmitting the initial offer of sale to the customer prior to the customer requesting the initial offer of sale for the product or service.

20. The method of claim 1, wherein the method is implemented in a distributed data processing system.

21. A computer program product in a computer readable medium for making  
5 selling decisions for selling a product or service, comprising:  
first instructions for obtaining one or more rules identifying strategic selling policies;

second instructions for obtaining one or more attributes for the product or service to be sold; and

10 third instructions for automatically making a decision to sell the product or service to a customer based on the one or more rules and the one or more attributes.

22. The computer program product of claim 21, wherein the one or more rules include one or more rules directed to at least one of an identification of the types of  
15 products or services that are to be sold over a specified period of time, preferred terms and conditions of sale, preferred shipping or delivery policies, desired expiration times on orders, target selling prices, thresholds for minimum selling prices, target values for customer quality metrics, records of previous sales, identities, amounts and values of products or services previously sold, pre-agreed terms for specific customers or  
20 categories of customers, preferred or required bundles of products or services, information for calculating tradeoffs among different products or services, sets of products or services that may be substituted for each other, default policies for product returns, rank ordered or weighted lists of preferred customers, preferred payment methods, and parameters used in automated price calculation algorithms.

23. The computer program product of claim 21, wherein the one or more attributes includes at least one of a minimum price to be paid for the product or service, a  
25 minimum number of products or services for purchase, sets of products or services that may be offered as substitutes for each other, information about relative valuations or

tradeoffs among products or services, information for determining tradeoffs among imperfectly substitutable products or services, information for determining tradeoffs between product or service prices, order size, and delivery times, information for determining tradeoffs between product or service prices and vendor preferences,  
 5 thresholds for minimum acceptable quality measures.

24. The computer program product of claim 21, wherein the product or service is associated with a multi-attribute utility function that describes an interrelation between multiple attributes of the one or more attributes.

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25. The computer program product of claim 21, wherein the one or more attributes are dynamically set.

26. The computer program product of claim 21, wherein the one or more attributes  
 15 are fixed.

27. The computer program product of claim 21, wherein at least one of the one or more attributes is dynamically set and at least one of the one or more attributes is fixed.

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28. The computer program product of claim 21, wherein a value of at least one of the one or more attributes is automatically set.

29. The computer program product of claim 21, wherein  
 the third instructions for automatically making a decision to sell the product or service  
 25 to a customer includes:

instructions for automatically determining an initial offer of sale for the product or service;

instructions for automatically providing the initial offer of sale to the customer;  
 and

instructions for automatically negotiating terms of sale of the product or service based on the initial offer of sale, the one or more rules and the one or more attributes of the product or service.

- 5     30.     The computer program product of claim 29, wherein the instructions for automatically negotiating terms of sale of the product or service include:  
              instructions for obtaining history information regarding the product or service;  
              and  
              instructions for determining acceptable terms of sale based on the history  
 10    information.

31.     The computer program product of claim 30, wherein the history information includes at least one of production costs for the product or service, prices of similar or competing products or services, current or past sales and income on different products  
 15    or services, estimates of historical measures of customer demand for the product or service, and customer click stream history.

32.     The computer program product of claim 29, wherein the instructions for automatically negotiating terms of sale of the product or service include:  
 20           instructions for obtaining exogenous preference information for a customer;  
              and  
              instructions for determining acceptable terms of sale based on the exogenous preference information.

- 25    33.     The computer program product of claim 32, wherein the exogenous preference information includes at least one of identification of known or previous customers that are preferred, identification of known or previous customers that are to be avoided, rank ordering of customers, and rank ordering of customers to prefer for the product or service.

34. The computer program product of claim 29, wherein the instructions for automatically negotiating terms of sale of the product or service includes:

- instructions for obtaining information about one of the product or service and
- 5 the customer from a third party; and
- instructions for determining acceptable terms of sale based on the obtained information.

35. The computer program product of claim 21, wherein the instructions for negotiating terms of sale of the product or service include at least one of instructions for using a price setting method, instructions for using an automated bidding method, and instructions for haggling over terms of sale of the product or service.

36. The computer program product of claim 21, wherein the instructions for negotiating terms of sale of the product or service include instructions for negotiating based on one or more negotiation parameters including at least one of:

- thresholds on minimum acceptable price;
- parameters of algorithms used to calculate price changes to offer;
- thresholds on minimum acceptable quality;
- 20 time-sensitive parameters;
- preferred increments in price when making counteroffers;
- preferences, weights, or rank orderings for evaluating tradeoffs among alternatives;
- tunable parameters of algorithms used in calculating offers; and
- 25 rank orderings of preferred algorithms to use with particular purchasers.

37. The computer program product of claim 21, further comprising:  
fourth instructions for storing a record of the sale.



38. The computer program product of claim 29, wherein the instructions for automatically providing the initial offer of sale to the customer include instructions for updating a on-line catalog listing for the product or service based on the initial offer of sale.

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39. The computer program product of claim 29, wherein the instructions for automatically providing the initial offer of sale to the customer include instructions for transmitting the initial offer of sale to the customer prior to the customer requesting the initial offer of sale for the product or service.

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40. The computer program product of claim 21, wherein the computer program product is executed in a distributed data processing system.

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41. An apparatus for making selling decisions for selling a product or service, comprising:

a first storage device for storing one or more rules identifying strategic selling policies;

a second storage device for obtaining one or more attributes for the product or service to be sold; and

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a controller coupled to the first storage device and the second storage device, wherein the controller automatically makes a decision to sell the product or service to a customer based on the one or more rules and the one or more attributes.

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42. The apparatus of claim 41, wherein the controller automatically makes a decision to sell the product or service to a customer by:

automatically determining an initial offer of sale for the product or service;

automatically providing the initial offer of sale to the customer; and

automatically negotiating terms of sale of the product or service based on the initial offer of sale, the one or more rules and the one or more attributes of the product or service.

- 5     43.     The apparatus of claim 42, wherein the controller automatically negotiates terms of sale of the product or service by:

obtaining history information regarding the product or service using a data collection device; and

- 10     determining acceptable terms of sale based on the history information using a negotiation engine.

44.     The apparatus of claim 42, wherein the controller automatically negotiates terms of sale of the product or service by:

- 15     obtaining exogenous preference information for a customer using a data collection device; and

determining acceptable terms of sale based on the exogenous preference information using a negotiation engine.

- 20     45.     The apparatus of claim 9, wherein the controller automatically negotiates terms of sale of the product or service by:

obtaining information about one of the product or service and the customer from a third party using a data collection device; and

- 25     determining acceptable terms of sale based on the obtained information using a negotiation engine.

46.     The apparatus of claim 41, wherein the controller automatically negotiates terms of sale of the product or service using at least one of a price setting method, an automated bidding method, and haggling over terms of sale of the product or service.

47. The apparatus of claim 41, further comprising:  
a transaction record storage device that stores a record of the sale.
48. The apparatus of claim 42, wherein the controller automatically provides the  
5 initial offer of sale to the customer by updating a on-line catalog listing for the product  
or service based on the initial offer of sale using an on-line catalog device.
49. The apparatus of claim 42, wherein the controller automatically provides the  
initial offer of sale to the customer by transmitting the initial offer of sale to the  
10 customer prior to the customer requesting the initial offer of sale for the product or  
service.